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09/849,783	05/05/2001	Michael Neal	DEM1P006	9893

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EXAMINER
VAN DOREN, BETH

ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/849,783	NEAL ET AL.
	Examiner	Art Unit	
	Beth Van Doren	3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>06 April 2006</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-24</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-24</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☐ All   b) ☐ Some *   c) ☐ None of:

         1. ☐ Certified copies of the priority documents have been received.

         2. ☐ Certified copies of the priority documents have been received in Application No. _____.

         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
     Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on 04/06/2006 has been entered.

2.   The following is a non-final office action in response to the request for continued

examination received on 04/06/06. Claims 1, 5, and 8-14 have been amended and claims 18-24

have been added. Claim 1-24 are now pending in this application.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cunningham

et al. (U.S. 6,029,139) in view of Dulaney et al. (U.S. 6,341,69).

        As per claim 1, Cunningham et al. teaches an apparatus for creating a promotional event

calendar, useful in association with at least one store, the apparatus comprising:

        an econometric engine for modeling sales as a function of price to create a sales model

(See column 2, lines 65-column 3, line 3, column 5, lines 13-23, column 6, lines 1-20, column 8,

lines 1-10, column 10, lines 55-65, which discusses modeling sales using price and sales

information);

a financial model engine for modeling costs to create a cost model (See column 5, lines

14-41, column 8, lines 1-12, column 10, lines 55-65, column 11, lines 65-column 12, line 5 and

lines 45-52, which discusses modeling costs using cost data);

a promotional engine coupled to the econometric engine, and financial model engine to

receive input from the econometric engine and financial model engine, wherein the promotional

engine analyzes a plurality of offers, a plurality of promotional events, conditions from at least

one manufacturer, and constraints to optimally match offers with promotional events to create a

promotional event calendar subject to conditions from the at least one store (See figure 2, column

2, lines 24-31, column 5, lines 13-42 and 59-65, column 11, lines 35-45 and 65-column 12, line

15 and lines 45-52, wherein an engine uses the output of the other engines to analyze and

optimize promotional options to match offers and events (i.e. prices with displays, for example)

This creates a schedule of events for future promotions. See column 2, lines 50-60, column 3,

lines 1-5 and 15, column 10, lines 60-65, and column 12, lines 20-25, wherein conditions (i.e.

sales, promotional participation, etc.) at the at least one store associated with a retailer is

considered in the modeling of a promotional event. See also column 2, lines 1-5 and 30-45,

column 4, lines 60-67, column 6, lines 1-13, and column 10, lines 20-40 and 55-57, which

discuss manufacturer conditions and user input constraints).

However, while Cunningham et al. discloses receiving and analyzing constraints from a

user and using linear programming, Cunningham et al. does not expressly disclose receiving and

analyzing constraints the at least one store.

Dulaney et al. discloses receiving and analyzing constraints the at least one store (See column 5, lines 59-65, column 6, lines 13-23, column 9, lines 50-60, column 10, lines 10-32, and column 16, lines 1-17, wherein constraints associated with the store are analyzed using linear/integer programming and constrained optimization) and promotion analysis (See column 18, lines 26-52).

Both Cunningham et al. and Dulaney et al. discloses using constrained optimization (linear programming) to make decisions concerning a store and promotions. Cunningham et al. discloses interfacing with a user to set goals and constraints and elicit promotional cost information for the system. Dulaney et al. specifically discloses constraints related to the store, such as capacity constraints concerning shelves and facings. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the user input constraints of Cunningham et al. be constraints related to the store in order to more efficiently select the best promotions for the store based on quantifiable inputs by the user, such as price, volume, or profit, by using constraints concerning the store that will affect the minimization of cost. See column 5, lines 50-55, of Cunningham et al. which discloses this motivation.

As per claim 2, Cunningham et al. discloses wherein the promotional engine further comprises a temporary price reduction optimizing engine for optimizing temporary price reduction prices after the promotional events and offers have been selected (See column 8, lines 1-11, column 11, lines 35-42 and line 65-column 12, line 12 and lines 45-55, wherein a temporary price reduction is considered by the promotional engine).

As per claim 3, Cunningham et al. teaches a promotional engine and outputting the optimized selection, as well as a client/personal computer (See figure 1, column 1, line 64-

column 2, line 7, column 5, lines 14-45, column 11, lines 65-column 12, line 5 and lines 45-55).

However, Cunningham et al. does not expressly discloses, nor does Dulaney et al., a support tool

per se connected to the promotional engine that receives the promotional event calendar from the

promotional engine and provides a user interface with the promotional event calendar to a client.

Cunningham discloses a system with client/server architecture and models that optimize

promotional planning to create the output of promotional events and offers. Using a user

interface to more efficiently display output to a user (or client) of a system is old and well known

in the computer arts. Therefore, it would have been obvious to one of ordinary skill in the art at

the time of the invention to display the output and optimized results to the user of the system in

order to more efficiently communicate the results to the user for whom the analysis was

performed. See column 2, lines 24-31, which discusses creating a plan to better meet the user's

goals and figure 1 and column 1, lines 64-column 2, line 7, which discuss a personal computer

connected to the system.

As per claim 4, Cunningham et al. discloses wherein the promotional engine calculates

the value of offers and the value of promotional events by using the financial model and sales

model and selects combinations of the offers and the promotional events (See column 2, lines 24-

31, column 5, lines 13-42 and 59-65, column 11, lines 35-45 and 65-column 12, line 15 and lines

45-52, wherein the promotion engine uses outputs of the financial and sales models to determine

offer and promotion events).

As per claim 5, Cunningham et al. discloses a computer-implemented method for creating

a promotional event calendar, comprising:

creating a sales model (See column 2, lines 65-column 3, line 3, column 5, lines 13-23, column 6, lines 1-20, column 8, lines 1-10, column 10, lines 55-65, which discuss a sales model created in the system that considers sales data);

creating a cost model (See column 2, lines 45-52, column 5, lines 13-20 and 59-column 6, line 25, wherein a cost model is created in the system and considers cost data);

determining conditions from at least one manufacturer (See column 4, lines 60-67, column 6, lines 1-13, and column 10, lines 20-40 and 55-57, which discuss manufacturer conditions);

determining user input constraints (See column 2, lines 1-5 and 30-45, which discuss user input constraints);

determining the value of offers using the sales model and cost model (See column 5, lines 14-41, column 8, lines 1-12, column 10, lines 55-65, column 11, lines 65-column 12, line 5 and lines 45-52, which discuss determining the value of offers using the models);

determining the value of promotional events using the sales model and cost model (See column 5, lines 25-41, column 6, lines 10-12, column 11, lines 65-column 12, line 5 and lines 45-52, which discusses the value of promotional events); and

selecting combinations of the offers and promotional events based on the determined values to create a promotional event calendar subject to the conditions from the at least one manufacturer and constraints from the user (See column 1, lines 59-63, column 2, lines 24-31, column 5, lines 25-41, column 11, lines 65-column 12, line 5 and lines 45-52, wherein the combination of offers and promotional events are selected based on determined values. See column 2, lines 50-60, column 3, lines 1-5 and 15, column 10, lines 60-65, and column 12, lines

20-25, wherein conditions related to a store are considered in the modeling of a promotional event. See also column 2, lines 1-5 and 30-45, column 4, lines 60-67, column 6, lines 1-13, and column 10, lines 20-40 and 55-57, which discuss manufacturer conditions and user input constraints).

However, while Cunningham et al. discloses receiving and analyzing constraints from a user and using linear programming, Cunningham et al. does not expressly disclose receiving and analyzing constraints the at least one store.

Dulaney et al. discloses receiving and analyzing constraints the at least one store (See column 5, lines 59-65, column 6, lines 13-23, column 9, lines 50-60, column 10, lines 10-32, and column 16, lines 1-17, wherein constraints associated with the store are analyzed using linear/integer programming and constrained optimization) and promotion analysis (See column 18, lines 26-52).

Both Cunningham et al. and Dulaney et al. discloses using constrained optimization (linear programming) to make decisions concerning a store and promotions. Cunningham et al. discloses interfacing with a user to set goals and constraints and elicit promotional cost information for the system. Dulaney et al. specifically discloses constraints related to the store, such as capacity constraints concerning shelves and facings. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the user input constraints of Cunningham et al. be constraints related to the store in order to more efficiently select the best promotions for the store based on quantifiable inputs by the user, such as price, volume, or profit, by using constraints concerning the store that will affect the minimization of cost. See column 5, lines 50-55, of Cunningham et al. which discloses this motivation.

As per claim 6, Cunningham et al. wherein the creating of the sales model comprises:

creating a plurality of demand groups, wherein each demand group is a set of at least one product and wherein at least one of the demand groups is a set of at least two products (See column 2, lines 25-35, column 4, line 61-column 5, lines 8, column 6, lines 22-40 and 50-62, which discusses demand groups wherein a demand group is one product or more than one product, such as segment or brand family);

creating a sales model for each demand group (See column 2, lines 25-35, column 4, line 61-column 5, lines 8, column 6, lines 22-40 and 50-62, wherein sales data is obtained and modeled for a demand group); and

creating a market share model for each product in each demand group (See column 2, lines 45-57, column 4, line 61-column 5, line 12, column 6, lines 22-40 and 50-65, wherein a model is created concerning the market of the demand group).

As per claim 7, Cunningham et al. discloses the step of estimating net profit from the selected combination of offers and promotional events using the sales model and cost model (See column 5, lines 30-56, column 6, lines 1-22, wherein the net profit is estimated by using optimization, the sales and cost models).

Claim 8 recites equivalent limitations to claims 5-7 above and is therefore rejected using the same art and rationale applied above.

As per claim 9, Cunningham et al. discloses determining user input constraints (See column 2, lines 1-5 and 30-45, which discuss user input constraints). However, while Cunningham et al. discloses receiving and analyzing constraints from a user and using linear

programming, Cunningham et al. does not expressly disclose receiving and analyzing constraints the at least one store.

Dulaney et al. discloses store constraints, where the store constraints include display space capacity (See figure 1, column 5, lines 59-65, column 6, lines 13-23, column 10, lines 1-32, and column 16, lines 1-17, wherein constraints associated with the store are analyzed using linear/integer programming and constrained optimization. The constraints include facing and shelf constraints).

Both Cunningham et al. and Dulaney et al. discloses using constrained optimization (linear programming) to make decisions concerning a store and promotions. Cunningham et al. discloses interfacing with a user to set goals and constraints and elicit promotional cost information for the system. Dulaney et al. specifically discloses constraints related to the store, such as capacity constraints concerning shelves and facings. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the user input constraints of Cunningham et al. be constraints related to the store, such as display space, in order to more efficiently select the best promotions for the store based on quantifiable inputs by the user, such as price, volume, or profit, by using constraints concerning the store that will affect the minimization of cost. See column 5, lines 50-55, of Cunningham et al. which discloses this motivation.

As per claim 10, Cunningham et al. discloses determining user input constraints (See column 2, lines 1-5 and 30-45, which discuss user input constraints). However, while Cunningham et al. discloses receiving and analyzing constraints from a user and using linear

programming, Cunningham et al. does not expressly disclose receiving and analyzing constraints the at least one store.

Dulaney et al. discloses store constraints, where the store constraints includes at least one of an event type (See column 18, lines 28-53, which discusses promotions/seasonal events).

Both Cunningham et al. and Dulaney et al. discloses using constrained optimization (linear programming) to make decisions concerning a store and promotions. Cunningham et al. discloses interfacing with a user to set goals and constraints and elicit promotional cost information for the system. Dulaney et al. specifically discloses constraints related to the store, such as capacity constraints concerning shelves and facings. It would have been obvious to one of ordinary skill in the art at the time of the invention to make the user input constraints of Cunningham et al. be constraints related to the store, such as event types, in order to more efficiently select the best promotions for the store based on quantifiable inputs by the user, such as price, volume, or profit, by using constraints concerning the store that will affect the minimization of cost. See column 5, lines 50-55, of Cunningham et al. which discloses this motivation.

Claims 11-12 and 13-14 recite equivalent limitations to claims 9-10, respectively, and are therefore rejected using the same art and rationale applied above.

As per claim 15, Cunningham teaches wherein the matching of offers with promotional events involves solving a linear optimization problem (See column 5, lines 25-45 and 50-56, wherein a linear optimization problem is solved to optimize the promotional plans). However, Cunningham et al. does not expressly disclose that the linear optimization problem is specifically an integer problem.

Dulaney et al. discloses an integer problem as a type of constrained optimization within linear programming (See column 16, lines 1-17).

Cunningham et al. discloses using linear optimization to find the best promotions based on volume, price, profit, etc. goals. Using integer programming when some variables of the problem need to be integer values is old and well-known in operations research, as discussed by Dulaney et al. Cunningham et al. discloses the variable of volume, for example, where the number of products must be an integer value. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use an integer problem in the linear optimization performed by Cunningham et al. in order to more efficiently select the best promotions at the least cost in a problem involving inputs that have integer values. See column 5, lines 50-55, of Cunningham et al. which discloses this motivation.

Claims 16 and 17 recite equivalent limitations to claim 15 and are therefore rejected using the same art and rationale applied above.

As per claim 18, Cunningham et al. discloses wherein the plurality of demand groups include a set of substitutable products (See column 2, lines 25-35, column 4, line 61-column 5, lines 8, column 6, lines 22-40 and 50-62, which discusses demand groups wherein a demand group is more than one product, such as segment or brand family. A segment is a product type, such as tea bags, wherein teabags of different manufacturers would be substitutes).

As per claims 19, 21, and 23, Cunningham et al. teaches wherein the conditions from the at least one manufacturer include providing at least one of a promotional event and a specific amount of promotion (See column 2, lines 1-5 and 30-45, column 4, lines 60-67, column 6, lines

1-13, and column 10, lines 20-40 and 55-57, which discuss manufacturer conditions, such as role in promotions).

As per claim 20, 22, and 24, Cunningham et al. teaches wherein the conditions from the at least one manufacturer include if a manufacturer is providing goods or products for a competitor (See column 2, lines 1-5 and 30-45, column 4, lines 60-67, column 6, lines 1-13, and column 10, lines 20-40 and 55-57, which discuss manufacturer conditions, such as role in promotions). However, neither Cunningham et al. or Dulaney et al. disclose that the manufacturer conditions include not providing a promotional event for a competitor's product.

Cunningham et al. discloses taking into consideration actions of competitor manufacturers when planning a promotion. When there is no competitor action, it would not be considered and thus not affect the planning of Cunningham et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to consider a manufacturer not providing a promotional event for a competitor's product in the planning of Cunningham et al. in order to more efficiently select the best promotions for the store based on quantifiable inputs by the user by using considering all variables that will affect the minimization of cost. See column 5, lines 50-55, of Cunningham et al. which discloses this motivation.

Response to Arguments

5.   Applicant's arguments with regards to Cunningham et al. (U.S. 6,029,139) have been fully considered, but they are not persuasive. In the remarks, Applicant argues that Cunningham et al. does not teach or suggest (1) conditions from at least one manufacturer, (2) constraints of the stores, where constraints of the stores include i. one of display space capacity or ad space

capacity and ii one of event type, a number of events, a brand promotion frequency, and a product promotion frequency, (3) the elements of new claims 18-24.

In response to argument (1), Examiner respectfully disagrees. See column 2, lines 1-5 and 30-45, column 4, lines 60-67, column 6, lines 1-13, and column 10, lines 20-40 and 55-57, which discuss manufacturer conditions, such as competitor conditions and profit considerations.

In response to argument (2), Examiner points out that she has relied upon Dulaney et al. to teach these newly added limitations, as set forth above in the new 35 USC 103 rejections, as necessitated by amendment.

In response to argument (3), Examiner points out that these new claims have been addressed in the new 35 USC 103 rejections set forth above, as necessitated by amendment.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Woo et al. (U.S. 6,910,017) teaches making promotional and price decisions based on sales history and timing data.

Jones (U.S. 5,832,458) discloses the manufacturer selecting items for price reduction and coordinating a calendar of events that can be supported by available manufacturing capacity, where the retailer plans promotional events based on manufacturer data.

Landvater et al. (U.S. 6,609,101) teaches planning for promotions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beth Van Doren whose telephone number is (571) 272-6737. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

bvd
April 14, 2006

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